

WHAT IS CLAIMED IS:

1. A toroidal-type continuously variable transmission comprising an input disc having a concavely curved raceway portion in one side, an output disc having a concavely curved raceway portion opposing to the raceway portion of the input disc in one side, and a roller rotatably sandwiched between the raceway portions of the discs for transmitting torque between the discs by a traction force between the circumference of the roller and the raceway portion of each of the discs, wherein, at least rolling contact portion of at least one transmitting member of the input disc, the out put disc and the roller is formed of a bearing steel which contains: C: 0.8-1.5 wt %; Si: 0.5-2.5 wt %; Mn: 0.3-2.0 wt %; Cr: 1.9-2.5 wt %; Mo: 0.3-1.0 wt %; and a total of 1.0 wt % or more of Si and Mo; with the balance being iron and unavoidable impurities; wherein, a residual austenite in a range of depth $Z = 1.0L$, where L is the major axis of a contact ellipse of the traction contact portion, from the surface of the rolling contact portion is 15 wt % or less, and the hardness of the range is HRC 58-62.
2. The toroidal-type continuously variable transmission according to claim 1, wherein, an oxide particle size in the range of depth $Z = 1.0L$ from the surface of the rolling contact portion formed of the bearing steel is less than 20 μm .
3. The toroidal-type continuously variable transmission according to claim 1 or 2, wherein, an oxide particle size in a range of depth $Z = 1.0b$, where b is the minor axis of the contact ellipse of the traction contact portion, from the surface of the rolling contact portion formed of the bearing steel from the surface of the rolling contact portion formed of the bearing steel is less than 20 μm .
4. The toroidal-type continuously variable transmission according to claim 1 or 2,

wherein, an oxide particle size in a range of depth $Z = 0.4b-0.5b$, where b is the minor axis of the contact ellipse of the traction contact portion, from the surface of the rolling contact portion formed of the bearing steel from the surface of the rolling contact portion formed of the bearing steel is less than $20\text{ }\mu\text{m}$.

- 5 5. The toroidal-type continuously variable transmission according to claim 1 or 2, wherein, the whole of the input disc, the whole of the output disc, and the whole of the roller are formed of the bearing steel, and the toroidal-type continuously variable transmission is a full-toroidal-type.
- 10 6. A toroidal-type continuously variable transmission comprising an input disc having a concavely curved raceway portion in one side, an output disc having a concavely curved raceway portion opposing to the raceway portion of the input disc in one side, and a roller rotatably sandwiched between the raceway portions of the discs for transmitting torque between the discs by a traction force between the circumference of the roller and the raceway portion of each
- 15 of the discs, wherein, at least rolling contact portion of at least one transmitting member of the input disc, the out put disc and the roller is formed of a bearing steel which contains: C: 0.8-1.5 wt %; Si: 0.5-2.5 wt %; Mn: 0.3-2.0 wt %; Cr: 1.9-2.5 wt %; Mo: 0.3-1.0 wt %; and a total of 1.0 wt % or more of Si and Mo; with the balance being iron and unavoidable impurities; wherein, a residual
- 20 austenite in a range of depth $Z = 1.0L$, where L is the major axis of a contact ellipse of the traction contact portion, from the surface of the rolling contact portion is 7-13 wt %, and the hardness of the range is HRC 59-61, and an oxide particle size in the range is $14-19\text{ }\mu\text{m}$.
- 25 7. The toroidal-type continuously variable transmission according to claim 6, wherein, an oxide particle size in the range of depth $Z = 1.0b$, where b is the

minor axis of the contact ellipse of the traction contact portion, from the surface of the rolling contact portion formed of the bearing steel from the surface of the rolling contact portion formed of the bearing steel is less than 20 μm .

8. The toroidal-type continuously variable transmission according to claim 6,

5 wherein, an oxide particle size in the range of depth $Z = 0.4b-0.5b$, where b is the minor axis of the contact ellipse of the traction contact portion, from the surface of the rolling contact portion formed of the bearing steel from the surface of the rolling contact portion formed of the bearing steel is less than 20 μm .

10 9. The toroidal-type continuously variable transmission according to any of claims 6, 7 and 8, wherein, the whole of the input disc, the whole of the output disc, and the whole of the roller are formed of the bearing steel, and the toroidal-type continuously variable transmission is a full-toroidal-type.

10. A method for producing the torque transmitting member of claim 1 or 6

15 comprising steps: forming a predetermined shape of blank formed of the bearing steel; tempering the blank at a temperature of 250 °C or more after quenching; and finishing the heat-treated blank.